

I. Gehlen. Folding Umbrella.

Fig. 4. Fig. 5.

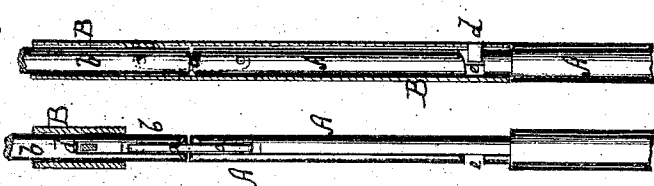
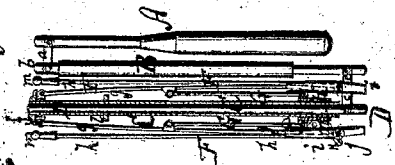


Fig. 2.



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Fig. 3.

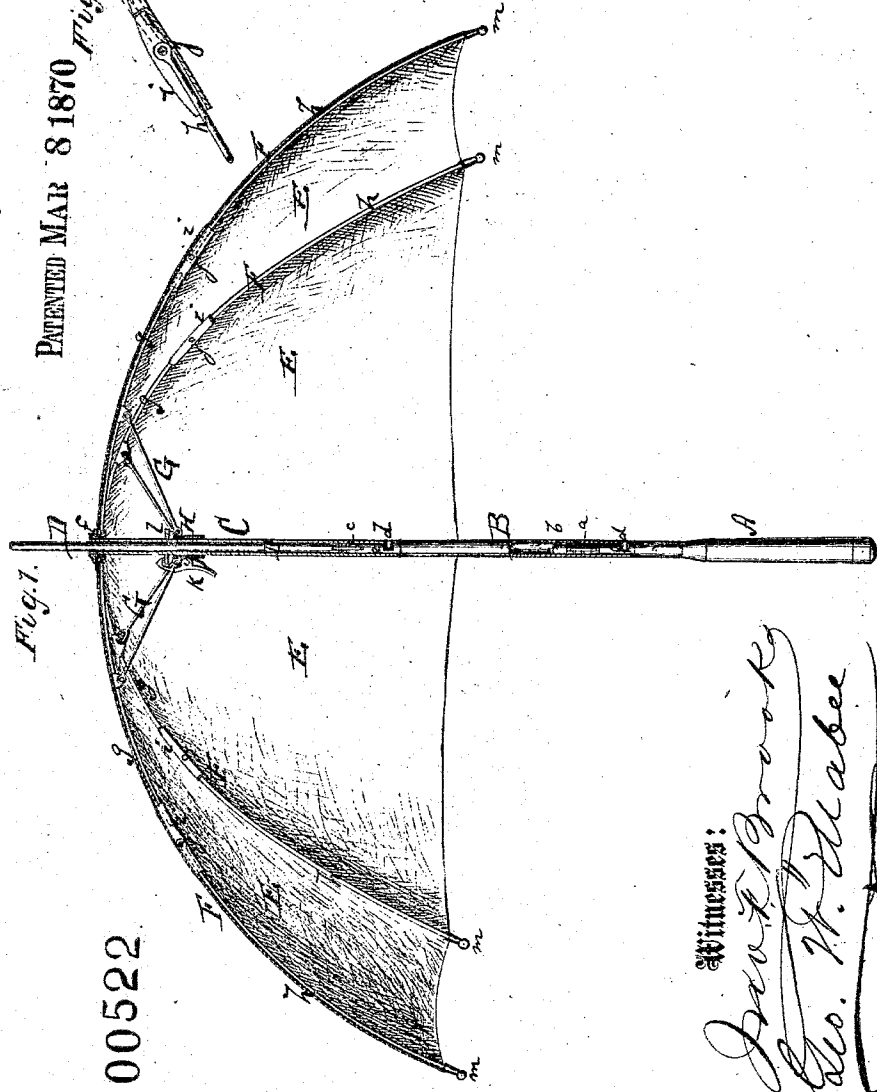
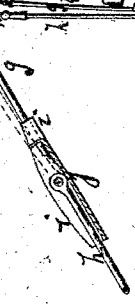


Fig. 1.

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Witnesses:

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LOUIS GEHLEN, OF NEW YORK, N. Y.

Letters Patent No. 100,522, dated March 8, 1870.

IMPROVEMENT IN HANDLES OF FOLDING UMBRELLAS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, LOUIS GEHLEN, of the city, county, and State of New York, have invented a new and improved Folding Umbrella; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification.

Figure 1 represents a sectional side view of my improved umbrella, showing it extended.

Figure 2 is a sectional view of the same, showing it folded together.

Figure 3 is a detail sectional view of one of the rib joints.

Figures 4 and 5 are detail sectional views of the stem joints.

Similar letters of reference indicate corresponding parts.

This invention relates to that class of umbrellas which are so constructed that the stem and ribs may be thrown into a more compact and portable form; and consists in certain improvements thereon, which will be specified hereinafter.

A in the drawing represents the handle of my improved umbrella.

It is, by means of a link, *a*, connected with a short rod, *b*, that slides in the tubular lower end of a portion, B, of the stem.

The part B is a rod, connected at its upper end by a link, *c*, with a rod, D, that is fitted longitudinally through the tubular upper part C of the umbrella stem. The latter consists thus of three main parts, A, B, and C.

The lower part A can, with its upper end, together with the rod *b* and link *a*, be forced into the tubular lower end of the part B, and is grooved, together with said rod *b*, to slide on a pin, *d*, that projects inward from B.

When the lower part A is drawn out of B, as in fig. 4, together with the rod *b*, then the part A can be laid against and parallel with the part B, the link *a* allowing the folding. When, however, the link *a* and rod *b*, together with the upper part of A, are forced into B, as in fig. 5, the parts A B form one rigid piece.

The pin *d* is in this latter portion brought into a notch, *e*, of A, to lock the parts together, and to prevent them from being drawn apart without turning the groove in A in line with the pin *d*.

The joint between the upper parts B and C is similar, only that the rod D passes entirely through the

tube C. When pushed through, as in fig. 1, it projects beyond the upper end of C and constitutes the upper end of the stem.

When the link *c* is drawn out of the tube C, the part B can be folded parallel with C. Thus, as in fig. 2, the stem can be folded to one-third its length whenever the umbrella is to be folded together, and it may be also rigidly extended, as in fig. 1, when to be used.

The upper end of the tube C carries the collar *f*, to which the inner ends of the covering pieces B are secured, as well as the inner ends of the ribs F.

Each rib F consists of two pieces, *g h*, of about equal length, each piece being about as long as one of the divisions of the stem.

The upper pieces *g* are with their upper ends pivoted to the collar *f*, while their lower ends carry grooved plates *i*, between the cheeks of which the upper ends of the lower pieces *h* are pivoted by pins *j*, as in fig. 3. The upper end of each piece *h* is thus supported on the plate *i*.

The parts *g* of the ribs are by braces G connected with the runner H, which travels on the stem.

To the runner is pivoted a spring hook, *k*, which, when the umbrella is to be extended, catches over a shoulder, *l*, of the tube C, as in fig. 1.

When the runner is raised to spread the parts *g*, the plates *i* hold the parts *h* outward, aided by the strain of the fabric. When the runner is drawn down, the fabric is made slack and the parts *h* can be folded up parallel to the parts *g*, as in fig. 2. Thus the entire umbrella is folded into a length equal to about one-third the length of its stem, or into any other suitable length, according to the number of subdivisions in its stem and ribs.

The lower ends of the covering are, it is evident, secured to the lower ends of the ribs, or as I find preferable, to thimbles *m m*, that are fitted over the lower ends of the ribs.

Having thus described my invention,
I claim as new, and desire to secure by Letters Patent—

An umbrella-stem having handle A, tubes B C, rods D *b*, links *a c*, pin *d*, and notch *e*, all combined, constructed, and arranged as specified.

The above specification of my invention signed by me this 8th day of December, 1869.

LOUIS GEHLEN.

Witnesses:

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